

Salvia divinorum and salvinorin A



Salvia divinorum is a perennial herb in the mint family native to certain areas of the Sierra Mazateca region of Oaxaca, Mexico. It is not controlled under the federal Controlled Substances Act (CSA). The plant has large green leaves, hollow square stems and white flowers with purple calyces. Street names for *Salvia divinorum* are Maria Pastora, Sage of the Seers, Diviner's Sage, Salvia, Sally-D, and Magic Mint. The active constituent of *Salvia divinorum* has been identified as salvinorin A, also called Divinorin A. Salvinorin A is believed to be the ingredient responsible for the hallucinogenic effects of *Salvia divinorum*. The active ingredient is a neoclerodane diterpene found primarily in the leaves, and to a lesser extent in the stems. *Salvia divinorum* is imported from Mexico and Central and South America is sold through the internet or local shops (e.g., head shops and tobacco shops) as seeds, plant cuttings, whole plants, fresh and dried leaves, extract-enhanced leaves of various strengths (e.g., 5x, 10x, 20x, 30x), and liquid extracts. As of November 2008, thirteen states have enacted legislation to place regulatory controls on *Salvia divinorum* and/or salvinorin A. Delaware, Florida, Illinois, Kansas, Mississippi, Missouri, North Dakota, Oklahoma, and Virginia have placed the drug and/or its constituent into schedule I of state law. The states of California, Louisiana, Maine and Tennessee enacted other forms of legislation restricting distribution of the plant. States in which legislative bills proposing regulatory controls died are Alabama, Alaska, Hawaii, Indiana, Iowa, Minnesota, Nebraska, Oregon, South Carolina, and Utah. Legislative bills proposing regulatory controls are pending in Michigan, New Jersey, New York, Ohio, Pennsylvania, Texas, and Wisconsin.

Salvia divinorum was first discovered in the late 1930s by anthropologists studying medicinal and magical cures in Mexico. It has been used by the Mazatec Indians for its ritual divination and healing. In the United States, the plant material is typically chewed or smoked. When chewed, the leaf mass and juice are absorbed across the lining of the oral mucosa (buccal). Effects first appear within 5 to 10 minutes. Dried leaves and extract-enhanced leaves are smoked. When an individual smokes pure salvinorin A, at a dose of 200 to 500 micrograms, effects are experienced within 30 seconds and last about 30 minutes. A limited number of studies have reported using either plant material or salvinorin A. Psychic effects include perceptions of bright lights, vivid colors and shapes, as well as body movements and body or object distortions. Other effects include dysphoria, uncontrolled laughter, a sense of loss of

Salvia divinorum

Drug Fact Sheet

body, overlapping realities, and hallucinations. Adverse physical effects may include incoordination, dizziness, and slurred speech.

The **National Survey on Drug Use and Health** (formerly the National Household Survey on Drug Abuse) is a Substance Abuse and Mental Health Services Administration (SAMSHA) database which measures drug use by people living in U.S. households. According to the first NSDUH report on *Salvia divinorum*, published by SAMHSA in February 2008, it is estimated that 1.8 million persons aged 12 or older used *Salvia divinorum* in their lifetime; 756,000 used the drug in the past year. Use was more common among young adults (18 to 25 years old), as opposed to older adults (> 26 years of age). Young adults were three times more likely than youth aged 12 to 17 to have used *Salvia divinorum* in the past year. Males aged 12 to 17 were three times more likely to use *Salvia divinorum* than females, while males ages 18 to 25 were four times more likely to use the drug.

A National Institute on Drug Abuse-funded study conducted by the University of Michigan, **Monitoring the Future**, measures prevalence of drug use among eighth, tenth, and twelfth graders. Data for *Salvia divinorum* is not collected in this study.

The **National Forensic Laboratory Information System (NFLIS)/System to Retrieve Information from Drug Evidence (STRIDE)** is a DEA database that collects scientifically verified data on analyzed samples in state and local forensic labs. It also includes data from STRIDE, which are analyzed samples from DEA labs. The following table shows *Salvia divinorum* items seized from 2000 through 2008.

ANALYZED SALVIA DIVINORUM or SALVINORIN A SEIZURES (Number of Items/Exhibits)

SOURCE	2000	2001	2002	2003	2004	2005	2006	2007	2008*
NFLIS- State/Local ¹	0	0	0	0	1	8	12	12	32
STRIDE ²	0	0	1	1	1	0	0	0	0
TOTAL	0	0	1	1	2	8	12	12	32

Data Source: NFLIS & STRIDE, 2008 data queried 11/24/2008

¹ NFLIS reported items of salvinorin A

² STRIDE reported items of *Salvia divinorum*.

*Includes only January – September data in 2008

DEA establishes the **Aggregate Production Quota** for the maximum amount of Schedule I and II substances which may be manufactured in the United States for legitimate

Salvia divinorum

Drug Fact Sheet

national scientific, medical and export needs, and for the maintenance of stocks. *Salvia divinorum* is not a controlled substance in the United States and does not have approved medical use; therefore, there is no production quota permitted by the Drug Enforcement Administration.

IMS National Prescription Audit Plus™, a provider database managed by IMS America, estimates total U.S. dispensed prescriptions. *Salvia divinorum* is not reported in this database of prescription drugs.

Another SAMSHA database, **Drug Abuse Warning Network (DAWN)**, provides data on drug-related episodes reported by hospital emergency rooms (ERs). *Salvia divinorum* is not currently reported in either the DAWN emergency room or Medical Examiner (ME) database.

For additional information contact ODE at 202-307-7183.